

IN THE CLAIMS:

Please AMEND the claims as indicated below:

1. (CURRENTLY AMENDED) A system, comprising:

a plurality of nodes providing signal channels pursuant to a single channel plan, said channel plan having predefined characteristics including at least a center frequency, a bandwidth and a power level of a carrier signal for each of the signal channels;

a spectrum analyzer;

a switch capable of connecting one of said nodes with said spectrum analyzer;

and

a controller controlling said switch to select said one node, said controller capable of monitoring signals on signal channels provided by said selected one node by conducting a test plan prescribing performance of an automated test which compares actual measured values from monitoring the signals with expected values indicated by the predefined characteristics of the channel plan and thereby produces a test result, said test plan further configured with an alarm limit, the controller further configured to compare the test result from said test with said alarm limit, the controller further configured to control said spectrum analyzer to perform a failure time spectrum scan when the test result exceeds said alarm limit, to generate a plot of power amplitude versus frequency over the frequency spectrum of said selected one node, and to display the generated plot.

2. (PREVIOUSLY PRESENTED) The system of claim 1, further comprising a database, wherein said controller is further configured to store said failure time spectrum scan in the database.

3. (PREVIOUSLY PRESENTED) The system of claim 1, wherein the controller is further configured to control the spectrum analyzer to perform a failure time spectrum scan over the entire frequency spectrum of said selected one node.

4. (ORIGINAL) The system of claim 1, wherein said nodes are part of a cable television network.

5. (ORIGINAL) The system of claim 1, further comprising:

a graphical user interface, wherein said controller is configured to retrieve and

communicate said failure time spectrum scan from said database to said graphical user interface for displaying said failure time spectrum scan in response to a user request.

6. (CURRENTLY AMENDED) The system of claim 1, wherein said test is a test of total node power, carrier-to-noise power, percent availability, average noise power, channel power or burst counter.

7. (ORIGINAL) The system of claim 5, wherein said user request is communicated to said controller via said graphical user interface.

8. (ORIGINAL) The system of claim of claim 5, wherein said controller is further configured to permit a user to configure said spectrum analyzer to repeat the failure time spectrum scan in response to a user request.

9. (ORIGINAL) The system of claim 8, wherein said spectrum analyzer is configured to perform said repeat of said failure time spectrum scan with the same spectrum analyzer configuration.

10. (ORIGINAL) The system of claim 9, wherein said user request is communicated to said controller via said graphical user interface.

11. (PREVIOUSLY PRESENTED) The system of claim 2, wherein said controller is further configured to control said spectrum analyzer to perform said failure time spectrum scan wherein said failure time spectrum scan is performed over a portion of said selected one node's frequency spectrum.

12. (ORIGINAL) The system of claim 11, wherein said controller controls said spectrum analyzer in response to said test plan.

13. (PREVIOUSLY PRESENTED) The system of claim 12, wherein said controller controls said response to said test plan by adjusting start and stop frequencies sent to configure said spectrum analyzer based on a respective channel under test at a time said alarm limit was exceeded.

14. (CURRENTLY AMENDED) A computer readable medium having a program for enabling efficient monitoring of electrical signals communicated along a plurality of nodes, each node having a plurality of signal channels, the signals being measured by a spectrum analyzer, the program comprising:

means for providing a channel plan having predefined characteristics including at least a center frequency, a bandwidth and a power level of a carrier signal for each signal channel;

means for receiving signal data from a respective node sampled by the spectrum analyzer; and

means for testing communication of said signals on the respective node by conducting a test plan prescribing performance of an automated test which compares actual measured values from the received signal data with expected values indicated by the predefined characteristics of the channel plan and thereby produces a test result, said means for testing further configured to compare the test result with an alarm limit and to control said spectrum analyzer to perform a failure time spectrum scan when said test results exceed said alarm limit, said failure time spectrum scan representative of power amplitude versus frequency over the frequency spectrum of the respective node; and

means for displaying the power amplitude versus frequency over the frequency spectrum represented by the failure time spectrum scan.

15. (CURRENTLY AMENDED) A method comprising:

providing a channel plan having predefined characteristics including at least a center frequency, a bandwidth and a power level of a carrier signal for each signal channel provided by a node of a network;

testing communication of a plurality of signals communicated on the node by conducting a test plan, said test plan prescribing an automated test which compares actual measured values on each signal channel provided by the node with expected values indicated by the predefined characteristics of the channel plan, and thereby produces a test result;

comparing the test result with a user definable alarm limit;

performing a failure time spectrum scan on the node when said test result exceed said alarm limit, said failure time spectrum scan representative of power amplitude versus frequency over the frequency spectrum of the node; and

displaying the power amplitude versus frequency over the frequency spectrum of the

node.

16. (PREVIOUSLY PRESENTED) The method of claim 15, further comprising the step of storing said failure time spectrum scan in a database.

17. (CANCELED)

18. (PREVIOUSLY PRESENTED) The method of claim 16, wherein said failure time spectrum scan is performed in response to said test plan by adjusting start and stop frequencies of said failure time spectrum scan based on a respective channel under test at a time said alarm limit was exceeded.

19. (CANCELED)

20. (CANCELED)

21. (CURRENTLY AMENDED) An apparatus comprising:

a spectrum analyzer monitoring a plurality of channels corresponding to a respective node of a network in accordance with a test plan for the node, wherein a channel plan provides predefined characteristics including at least a center frequency, a bandwidth and a power level of a carrier signal for each of the channels, and the test plan provides an automated test which compares actual measured values from monitoring signals on the channels by the spectrum analyzer with expected values indicated by the predetermined characteristics of the channel plan; and

a controller automatically performing a failure test spectrum scan for the respective node when a result of the test exceeds an alarm limit for the test, wherein the failure test plan provides a power amplitude versus frequency graph over a frequency spectrum of the node, and the controller automatically displays the graph.

22. (PREVIOUSLY PRESENTED) The apparatus of claim 21, wherein the respective node is a node of a cable television network.

23. (PREVIOUSLY PRESENTED) The apparatus of claim 21, further comprising: a graphical user interface, wherein the controller displays the graph on the graphical user interface in response to a user request.

24. (CURRENTLY AMENDED) An apparatus comprising:
a spectrum analyzer monitoring a plurality of channels corresponding to a respective node of a network in accordance with a test plan for the node, wherein a channel plan provides predefined characteristics including at least a center frequency, a bandwidth and a power level of a carrier signal for each of the channels, and the test plan provides an automated test which compares actual measured values from monitoring signals on the channels by the spectrum analyzer with expected values indicated by the predetermined characteristics of the channel plan;
means for automatically performing a failure test spectrum scan for the respective node when a result of the test exceeds an alarm limit for the test, the failure test plan providing a power amplitude versus frequency graph over a frequency spectrum of the node; and
means for displaying the graph.

25. (CURRENTLY AMENDED) An apparatus comprising:
a spectrum analyzer;
a switch controllable to connect a respective node of a plurality of nodes of a network to the spectrum analyzer, each node having a corresponding plurality of channels; and
a controller controlling the switch to connect a selected node of the plurality of nodes to the spectrum analyzer, wherein

the spectrum analyzer monitors the plurality of channels corresponding to the selected node in accordance with a test plan for the selected node,
a channel plan provides predefined characteristics including at least a center frequency, a bandwidth and a power level of a carrier signal for each of the plurality of channels corresponding to the selected node,

the test plan provides an automated test which compares actual measured values from monitoring signals on the plurality of channels corresponding to the selected node by the spectrum monitor with expected values indicated by the predetermined characteristics of the channel plan,

the controller automatically performs a failure test spectrum scan for the selected node

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when a result of the test exceeds an alarm limit for the test, the failure test plan providing a power amplitude versus frequency graph over a frequency spectrum of the selected node, and the controller displays the graph on a screen.